AMENDMENTS TO THE CLAIMS

Please amend claims 1-6, 9, 10 and 21-33. Claims 11-20 were canceled in previous papers. No new matter is believed to be introduced by the aforementioned amendments. The following listing of claims will replace all prior versions and listings of claims in the application.

1. **(Currently Amended)** A microelectromechanical temperature control system ~~for controlling the temperature of a heat-generating component~~, comprising:

a magnetic MEMS heat sink device configured for thermal communication with a heat-generating component by way of a heat transfer path, the magnetic MEMS heat sink device including a heat sink having a volume;

a temperature sensor responsive to input from the magnetic MEMS heat sink device; and

control circuitry in communication with the temperature sensor and with the magnetic MEMS heat sink device, the control circuitry being responsive to input from the temperature sensor, and the heat sink volume and/or a heat transfer path geometry being variable in accordance with an output of the control circuitry

~~wherein the temperature sensor detects the temperature of the heat-generating component through the heat sink device and feeds the sensed temperature to the control circuitry~~.

2. **(Currently Amended)** The microelectromechanical temperature control system of claim 1, wherein the heat-generating component comprises a laser.

3. **(Currently Amended)** The microelectromechanical temperature control system of claim 2, wherein the laser comprises a laser diode.

4. **(Currently Amended)** The microelectromechanical temperature control system of claim 1, wherein the control circuitry comprises a processor.

5. **(Currently amended)** The microelectromechanical temperature control system of claim 1, wherein the control circuitry compares [[the]] a sensed temperature of the heat generating component against a predetermined temperature set point.

6. **(Currently Amended)** A method for controlling [[the]] temperature ~~of a heat-generating component,~~ comprising:

~~providing a magnetic heat sink device having a temperature sensor~~;

detecting [[the]] a temperature of [[the]] a heat-generating component ~~through the temperature sensor~~;

~~feeding the detected temperature to control circuitry;~~ [[and]]

comparing the detected temperature against a predetermined temperature set point; and

modifying, if necessary, a heat transfer rate associated with the heat-generating component by performing at least one of the following: changing a volume of a heat sink device that is in thermal communication with the heat-generating component; and, changing a geometry of a heat transfer path associated with the heat-generating component.

7. **(Original)** The method of claim 6, wherein the heat-generating component comprises a laser.

8. **(Original)** The method of claim 7, wherein the laser comprises a laser diode.

9. **(Currently Amended)** The method of claim 6, ~~further comprising sending a command to the magnetic heat sink device to take more heat out of the heat-generating component when the detected temperature is higher than the temperature set point~~ wherein the volume of the heat sink is increased, relative to a prior volume, if the detected temperature exceeds the predetermined temperature set point, and the volume of the heat sink is decreased, relative to a prior volume, if the predetermined temperature set point exceeds the detected temperature.

10. **(Currently Amended)** The method of claim 6, ~~further comprising sending a command to the magnetic heat sink device to take less heat out of the heat-generating component when the detected temperature is lower than the temperature set point~~ wherein electrical power is employed to effect any changes in the heat sink volume and/or any changes in the heat transfer path geometry, such that electrical power is consumed in connection with performance of the method only if the detected temperature is different than the predetermined temperature set point.

11-20. **(Canceled)**

21. **(Currently Amended)** The microelectromechanical temperature control system of claim 3, ~~further comprising~~ wherein the magnetic MEMS heat sink device further comprises:

~~a laser system comprising:~~

a laser mount having a first surface and an opposing second surface; ~~and~~

~~the laser diode coupled to the first surface of the laser mount;~~

an actuator system comprising:

a plurality of actuator plates; and

one or more magnetic components; and

the ~~magnetic~~ heat sink ~~device comprising~~ comprises;

one or more magnetic plates attached to the second surface of the laser mount; and

a heat sink material disposed between the laser [[system]] mount and the actuator system, the heat sink material comprising one or more fingers;

wherein the heat sink material attaches to the magnetic plates when a current flows through the actuator plates to provide additional heat sink volume.

22. **(Currently Amended)** The microelectromechanical temperature control system of claim 21, wherein the laser mount comprises a material selected from the group consisting of silicon, brass, and a low CTE lead frame alloy.

23. **(Currently Amended)** The microelectromechanical temperature control system of claim 21, wherein the magnetic plates comprise a permanent magnet.

24. **(Currently Amended)** The microelectromechanical temperature control system of claim 23, wherein the permanent magnet comprises iron.

25. **(Currently Amended)** The microelectromechanical temperature control system of claim 21, wherein the actuator plates comprise a low temperature co-fired ceramic material.

26. **(Currently Amended)** The microelectromechanical temperature control system of claim 21, wherein the fingers comprise silicon coated with a heat-conducting material.

27. **(Currently Amended)** The microelectromechanical temperature control system of claim 26, wherein the heat-conducting material comprises copper.

28. **(Currently Amended)** The microelectromechanical temperature control system of claim 21, wherein the fingers are part of a silicon wafer.

29. **(Currently Amended)** The microelectromechanical temperature control system of claim 21, further comprising a permanent magnetic material on a portion of the one or more fingers.

30. **(Currently Amended)** The microelectromechanical temperature control system of claim 29, wherein the permanent magnetic material comprises SmCo.

31. **(Currently Amended)** The microelectromechanical temperature control system of claim 21, wherein the heat sink material attaches to the magnetic plates when a current flows through the actuator plates to provide additional heat sink volume when [[the]] a laser diode in thermal communication with the laser mount generates more heat than can be handled by the laser mount alone.

32 **(Currently Amended)** The microelectromechanical temperature control system of claim 1, wherein physical heat transfer between the heat-generating component and the ~~magnetic~~ heat sink device is varied at least in part based on the sensed ~~temperature~~ temperature.

33. **(Currently Amended)** The microelectromechanical temperature control system of claim 1, wherein the physical heat transfer between the heat-generating component and the ~~magnetic~~ heat sink device is varied by varying a contact area between the ~~magnetic~~ heat sink device and the heat-generating component.